

IN THE ABSTRACT:

Please amend the Abstract as follows:

A ~~simplified~~ logic circuit having structure for performing the AES Rijndael MixColumns transform exploits the common-relationship between each of the successive rows of the transform matrix and its preceding row. ~~A logic circuit for performing~~ Multiplication of an (m.times.n) matrix by a (1.times.n) or by a (m.times.1) matrix is performed, where m is a number of rows and n is a number of columns, and where each successive row, m, of n elements is a predetermined row permutation of a preceding row, ~~comprises~~includes: n multiplication circuits; n logic circuits; n registers for receiving logical output from the logic circuits; feedback logic for routing ~~the~~ contents of each register to a selected one of inputs of the logic circuits in accordance with a feedback plan that corresponds to the common-relationship between successive matrix rows; and a control ~~means-~~ unit for successively providing as input to each of the n multiplication circuits each element in the (1.times.n) or (m.times.1) matrix.